# National Council for the Social Studies (NCSS), National Geography Standards (NGS), Next Generation Science Standards (NGSS)

Subjects: Science, Social Studies

# Grades: 2, 3, 4, 5, 6

# **Virtual Field Trips**

# **The Amazon Rainforest**

### National Council for the Social Studies (NCSS)

Grade 2 - Add	opted: 201	10
THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1.	'Culture" refers to the behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.2.	Concepts such as: similarities, differences, beliefs, values, cohesion, and diversity.
LEARNING EXPECTATION	1.1.4.	How culture may change in response to changing needs and concerns.
LEARNING EXPECTATION	1.1.6.	How peoples from different cultures develop different values and ways of interpreting experience.
THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	1.2.2.	Explore and describe similarities and differences in the ways various cultural groups meet similar needs and concerns.
THEME	NCSS.2.	TIME, CONTINUITY, AND CHANGE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
CATEGORY	2.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	2.1.4.	Key people, events, and places associated with the history of the community, nation, and world.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.

CATEGORY	3.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	3.1.5.	Physical changes in community, state, and region, such as seasons, climate, and weather, and their effects on plants and animals.
THEME	NCSS.5.	INDIVIDUALS, GROUPS, AND INSTITUTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.
CATEGORY	5.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	5.1.2.	Concepts such as: community, culture, role, competition, cooperation, rules, and norms.
THEME	NCSS.9.	GLOBAL CONNECTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.
CATEGORY	9.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	9.2.4.	Describe examples in which language, art, music, belief systems, and other cultural elements can facilitate global understanding or cause misunderstanding.

## National Council for the Social Studies (NCSS)

**Social Studies** 

# Grade 3 - Adopted: 2010

THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1.	'Culture'' refers to the behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.2.	Concepts such as: similarities, differences, beliefs, values, cohesion, and diversity.
LEARNING EXPECTATION	1.1.4.	How culture may change in response to changing needs and concerns.
LEARNING EXPECTATION	1.1.6.	How peoples from different cultures develop different values and ways of interpreting experience.
THEME	NCSS.1.	CULTURE
THEME DEFINITION	NCSS.1.	CULTURE SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
THEME DEFINITION CATEGORY	NCSS.1. 1.2.	CULTURE SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY. PROCESSES - Learners will be able to:
THEME DEFINITION CATEGORY LEARNING EXPECTATION	NCSS.1. 1.2. 1.2.2.	CULTURE SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY. PROCESSES - Learners will be able to: Explore and describe similarities and differences in the ways various cultural groups meet similar needs and concerns.
THEME DEFINITION CATEGORY LEARNING EXPECTATION THEME	NCSS.1. 1.2. 1.2.2. NCSS.2.	CULTURE SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY. PROCESSES - Learners will be able to: Explore and describe similarities and differences in the ways various cultural groups meet similar needs and concerns. TIME, CONTINUITY, AND CHANGE
THEME DEFINITION CATEGORY LEARNING EXPECTATION THEME DEFINITION	NCSS.1. 1.2. 1.2.2. NCSS.2.	CULTURE SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY. PROCESSES - Learners will be able to: Explore and describe similarities and differences in the ways various cultural groups meet similar needs and concerns. TIME, CONTINUITY, AND CHANGE SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
THEME DEFINITION CATEGORY LEARNING EXPECTATION THEME DEFINITION CATEGORY	NCSS.1. 1.2. 1.2.2. NCSS.2. 2.1.	CULTURE SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY. PROCESSES - Learners will be able to: Explore and describe similarities and differences in the ways various cultural groups meet similar needs and concerns. TIME, CONTINUITY, AND CHANGE SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY. KNOWLEDGE - Learners will understand:

	nation, and world.
NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
	SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
3.1.	KNOWLEDGE - Learners will understand:
3.1.5.	Physical changes in community, state, and region, such as seasons, climate, and weather, and their effects on plants and animals.
NCSS.5.	INDIVIDUALS, GROUPS, AND INSTITUTIONS
	SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.
5.1.	KNOWLEDGE - Learners will understand:
5.1.2.	Concepts such as: community, culture, role, competition, cooperation, rules, and norms.
NCSS.9.	GLOBAL CONNECTIONS
	SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.
9.2.	PROCESSES - Learners will be able to:
9.2.4.	Describe examples in which language, art, music, belief systems, and other cultural elements can facilitate global understanding or cause misunderstanding.
	NCSS.3. 3.1. 3.1.5. NCSS.5. 5.1. 5.1.2. NCSS.9. 9.2. 9.2.

# National Council for the Social Studies (NCSS)

## **Social Studies**

# Grade 4 - Adopted: 2010

THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1.	'Culture" refers to the behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.2.	Concepts such as: similarities, differences, beliefs, values, cohesion, and diversity.
LEARNING EXPECTATION	1.1.4.	How culture may change in response to changing needs and concerns.
LEARNING EXPECTATION	1.1.6.	How peoples from different cultures develop different values and ways of interpreting experience.
THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	1.2.2.	Explore and describe similarities and differences in the ways various cultural groups meet similar needs and concerns.

THEME	NCSS.2.	TIME, CONTINUITY, AND CHANGE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
CATEGORY	2.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	2.1.4.	Key people, events, and places associated with the history of the community, nation, and world.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	3.1.5.	Physical changes in community, state, and region, such as seasons, climate, and weather, and their effects on plants and animals.
THEME	NCSS.5.	INDIVIDUALS, GROUPS, AND INSTITUTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.
CATEGORY	5.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	5.1.2.	Concepts such as: community, culture, role, competition, cooperation, rules, and norms.
THEME	NCSS.9.	GLOBAL CONNECTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.
CATEGORY	9.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	9.2.4.	Describe examples in which language, art, music, belief systems, and other cultural elements can facilitate global understanding or cause misunderstanding.

## National Council for the Social Studies (NCSS)

### **Social Studies**

# Grade 5 - Adopted: 2010

THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1.	'Culture'' refers to the socially transmitted behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.3.	How culture influences the ways in which human groups solve the problems of daily living.
LEARNING EXPECTATION	1.1.6.	That culture may change in response to changing needs, concerns, social, political, and geographic conditions.
LEARNING EXPECTATION	1.1.7.	How people from different cultures develop different values and ways of interpreting experience.
THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES

		THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	1.2.1.	Ask and find answers to questions related to culture.
LEARNING EXPECTATION	1.2.7.	Draw inferences from data about the ways in which given cultures respond to persistent human issues, and how culture influences those responses.
THEME	NCSS.2.	TIME, CONTINUITY, AND CHANGE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
CATEGORY	2.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	2.1.6.	The origins and influences of social, cultural, political, and economic systems.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	3.1.1.	The theme of people, places, and environments involves the study of the relationships between human populations in different locations and geographic phenomena such as climate, vegetation, and natural resources.
LEARNING EXPECTATION	3.1.3.	Past and present changes in physical systems, such as seasons, climate, and weather, and the water cycle, in both national and global contexts.
LEARNING EXPECTATION	3.1.5.	The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).
LEARNING EXPECTATION	3.1.7.	Human modifications of the environment.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	3.2.3.	Acquire, organize, and analyze information and use geographic tools to draw conclusions about historic or current national and global environmental change.
THEME	NCSS.5.	INDIVIDUALS, GROUPS, AND INSTITUTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.
CATEGORY	5.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	5.1.2.	Concepts such as: mores, norms, status, role, socialization, ethnocentrism, cultural diffusion, competition, cooperation, conflict, race, ethnicity, and gender.
LEARNING EXPECTATION	5.1.9.	That groups and institutions influence culture in a variety of ways.
THEME	NCSS.9.	GLOBAL CONNECTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES

# THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.

CATEGORY 9.2. PROCESSES - Learners will be able to:

LEADNING	Investigate and explain the ways in which aspects of culture, such as
EXPECTATION 9.2.3.	language, beliefs, and traditions, may facilitate understanding, or lead to
EXILCTATION	misunderstanding between cultures.

### National Council for the Social Studies (NCSS)

### **Social Studies**

# Grade 6 - Adopted: 2010

THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1.	'Culture" refers to the socially transmitted behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.3.	How culture influences the ways in which human groups solve the problems of daily living.
LEARNING EXPECTATION	1.1.6.	That culture may change in response to changing needs, concerns, social, political, and geographic conditions.
LEARNING EXPECTATION	1.1.7.	How people from different cultures develop different values and ways of interpreting experience.
THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	1.2.1.	Ask and find answers to questions related to culture.
LEARNING EXPECTATION	1.2.7.	Draw inferences from data about the ways in which given cultures respond to persistent human issues, and how culture influences those responses.
THEME	NCSS.2.	TIME, CONTINUITY, AND CHANGE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
CATEGORY	2.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	2.1.6.	The origins and influences of social, cultural, political, and economic systems.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	3.1.1.	The theme of people, places, and environments involves the study of the relationships between human populations in different locations and geographic phenomena such as climate, vegetation, and natural resources.
LEARNING	3.1.3.	Past and present changes in physical systems, such as seasons, climate, and

EXPECTATION		weather, and the water cycle, in both national and global contexts.
LEARNING EXPECTATION	3.1.5.	The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).
LEARNING EXPECTATION	3.1.7.	Human modifications of the environment.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	3.2.3.	Acquire, organize, and analyze information and use geographic tools to draw conclusions about historic or current national and global environmental change.
THEME	NCSS.5.	INDIVIDUALS, GROUPS, AND INSTITUTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.
CATEGORY	5.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	5.1.2.	Concepts such as: mores, norms, status, role, socialization, ethnocentrism, cultural diffusion, competition, cooperation, conflict, race, ethnicity, and gender.
LEARNING EXPECTATION	5.1.9.	That groups and institutions influence culture in a variety of ways.
THEME	NCSS.9.	GLOBAL CONNECTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.
CATEGORY	9.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	9.2.3.	Investigate and explain the ways in which aspects of culture, such as language, beliefs, and traditions, may facilitate understanding, or lead to misunderstanding between cultures.

### Science

# Grade 2 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.PR.	Places and Regions
STANDARD	PR.4.	The physical and human characteristics of places
STRAND	PR.4.2.	The Characteristics of Places: Places have physical and human characteristics
BENCHMARK	PR.4.2.A.	Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to
EXPECTATION	PR.4.2.A.2.	Describe and compare the vegetation in different places in the world (e.g., deserts, mountains, rain forests, plains).
EXPECTATION	PR.4.2.A.3.	Describe and compare the physical environments and landforms of different

		places in the world (e.g., mountains, islands, valleys or canyons, mesas).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)
BENCHMARK	PS.7.1.A.	Identify attributes of Earth's different physical systems, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify examples of water features on Earth's surface that comprise the hydrosphere (e.g., oceans, rivers, lakes, water vapor, ground water, different types of precipitation).
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.3.	Physical Processes: Physical processes shape features on Earth's surface
BENCHMARK	PS.7.3.B.	Describe how physical processes shape features on Earth's surface, as exemplified by being able to
EXPECTATION	PS.7.3.B.2.	Describe the physical processes that shaped particular landform features using pictures of landforms such as canyons, mesas, and deltas.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: The components of ecosystems
BENCHMARK	PS.8.1.A.	Identify the components of different ecosystems, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Identify the three major components of an ecosystem (i.e., biomass, climate, and soil).
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).
EXPECTATION	PS.8.1.A.3.	Describe local ecosystems by surveying and recording the properties of their components.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: The characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Identify and describe the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.
EXPECTATION	PS.8.2.A.2.	Identify and draw pictures of different plants and animals in various local ecosystems (e.g., a pond, forest, city park).
EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous

		forest, coral reef).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: The characteristics of biomes
BENCHMARK	PS.8.3.A.	Describe the characteristics of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
EXPECTATION	PS.8.3.A.3.	Identify the characteristics in photographs of different types of vegetation and match them to the appropriate sections of a world climate map (e.g., cacti and succulents on a desert climate region, tropical forest trees on a tropical climate region, coral in shallow, tropical marine waters).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The consequences of human modifications of the physical environment
BENCHMARK	ES.14.3.A.	Identify and describe examples of how human activities impact the physical environment, as exemplified by being able to
EXPECTATION	ES.14.3.A.1	Identify and describe the changes in local habitats that resulted from human activities.
ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.18.	How to apply geography to interpret the present and plan for the future
STRAND	UG.18.1.	Using Geography to Interpret the Present and Plan for the Future: Geographic contexts (the human and physical characteristics of places and environments) are the settings for current events
BENCHMARK	UG.18.1.A.	Analyze geographic contexts in which current events and issues occur, as exemplified by being able to
EXPECTATION	UG.18.1.A.	Analyze a current environmental issue in the region (e.g., building or demolishing a dam, building or expansion of freeway system, creation of 3. parks and open spaces, regulatory legislation on industry to prevent further air, water, and land pollution) and describe ways in which people and the environment interact to affect the issue positively and negatively.

Science

# $Grade \ 3 \ \text{-} \ \text{Adopted:} \ 2012$

ESSENTIAL ELEMENT	NGS.PR.	Places and Regions
STANDARD	PR.4.	The physical and human characteristics of places
STRAND	PR.4.2.	The Characteristics of Places: Places have physical and human characteristics

BENCHMARK	PR.4.2.A.	Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to
EXPECTATION	PR.4.2.A.2	Describe and compare the vegetation in different places in the world (e.g., deserts, mountains, rain forests, plains).
EXPECTATION	PR.4.2.A.3	Describe and compare the physical environments and landforms of different places in the world (e.g., mountains, islands, valleys or canyons, mesas).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)
BENCHMARK	PS.7.1.A.	Identify attributes of Earth's different physical systems, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify examples of water features on Earth's surface that comprise the hydrosphere (e.g., oceans, rivers, lakes, water vapor, ground water, different types of precipitation).
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.3.	Physical Processes: Physical processes shape features on Earth's surface
BENCHMARK	PS.7.3.B.	Describe how physical processes shape features on Earth's surface, as exemplified by being able to
EXPECTATION	PS.7.3.B.2.	Describe the physical processes that shaped particular landform features using pictures of landforms such as canyons, mesas, and deltas.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: The components of ecosystems
BENCHMARK	PS.8.1.A.	Identify the components of different ecosystems, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Identify the three major components of an ecosystem (i.e., biomass, climate, and soil).
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).
EXPECTATION	PS.8.1.A.3.	Describe local ecosystems by surveying and recording the properties of their components.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: The characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Identify and describe the characteristics of ecosystems, as exemplified by being able to

EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.
EXPECTATION	PS.8.2.A.2.	Identify and draw pictures of different plants and animals in various local ecosystems (e.g., a pond, forest, city park).
EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: The characteristics of biomes
BENCHMARK	PS.8.3.A.	Describe the characteristics of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
EXPECTATION	PS.8.3.A.3.	Identify the characteristics in photographs of different types of vegetation and match them to the appropriate sections of a world climate map (e.g., cacti and succulents on a desert climate region, tropical forest trees on a tropical climate region, coral in shallow, tropical marine waters).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The consequences of human modifications of the physical environment
BENCHMARK	ES.14.3.A.	Identify and describe examples of how human activities impact the physical environment, as exemplified by being able to
EXPECTATION	ES.14.3.A.1	Identify and describe the changes in local habitats that resulted from human activities.
ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.18.	How to apply geography to interpret the present and plan for the future
STRAND	UG.18.1.	Using Geography to Interpret the Present and Plan for the Future: Geographic contexts (the human and physical characteristics of places and environments) are the settings for current events
BENCHMARK	UG.18.1.A.	Analyze geographic contexts in which current events and issues occur, as exemplified by being able to
EXPECTATION	UG.18.1.A.	Analyze a current environmental issue in the region (e.g., building or demolishing a dam, building or expansion of freeway system, creation of 3. parks and open spaces, regulatory legislation on industry to prevent further

Science

# Grade 4 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.PR.	Places and Regions
STANDARD	PR.4.	The physical and human characteristics of places
STRAND	PR.4.2.	The Characteristics of Places: Places have physical and human characteristics
BENCHMARK	PR.4.2.A.	Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to
EXPECTATION	PR.4.2.A.2.	Describe and compare the vegetation in different places in the world (e.g., deserts, mountains, rain forests, plains).
EXPECTATION	PR.4.2.A.3	Describe and compare the physical environments and landforms of different places in the world (e.g., mountains, islands, valleys or canyons, mesas).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)
BENCHMARK	PS.7.1.A.	Identify attributes of Earth's different physical systems, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify examples of water features on Earth's surface that comprise the hydrosphere (e.g., oceans, rivers, lakes, water vapor, ground water, different types of precipitation).
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.3.	Physical Processes: Physical processes shape features on Earth's surface
BENCHMARK	PS.7.3.B.	Describe how physical processes shape features on Earth's surface, as exemplified by being able to
EXPECTATION	PS.7.3.B.2.	Describe the physical processes that shaped particular landform features using pictures of landforms such as canyons, mesas, and deltas.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: The components of ecosystems
BENCHMARK	PS.8.1.A.	Identify the components of different ecosystems, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Identify the three major components of an ecosystem (i.e., biomass, climate, and soil).
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).
EXPECTATION	PS.8.1.A.3.	Describe local ecosystems by surveying and recording the properties of their components.

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: The characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Identify and describe the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.
EXPECTATION	PS.8.2.A.2.	Identify and draw pictures of different plants and animals in various local ecosystems (e.g., a pond, forest, city park).
EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: The characteristics of biomes
BENCHMARK	PS.8.3.A.	Describe the characteristics of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
EXPECTATION	PS.8.3.A.3.	Identify the characteristics in photographs of different types of vegetation and match them to the appropriate sections of a world climate map (e.g., cacti and succulents on a desert climate region, tropical forest trees on a tropical climate region, coral in shallow, tropical marine waters).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The consequences of human modifications of the physical environment
BENCHMARK	ES.14.3.A.	Identify and describe examples of how human activities impact the physical environment, as exemplified by being able to
EXPECTATION	ES.14.3.A.1	Identify and describe the changes in local habitats that resulted from 'human activities.
ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.18.	How to apply geography to interpret the present and plan for the future
STRAND	UG.18.1.	Using Geography to Interpret the Present and Plan for the Future: Geographic contexts (the human and physical characteristics of places and environments) are the settings for current events
BENCHMARK	UG.18.1.A.	Analyze geographic contexts in which current events and issues occur, as exemplified by being able to
EXPECTATION	UG.18.1.A.	3. Analyze a current environmental issue in the region (e.g., building or

demolishing a dam, building or expansion of freeway system, creation of parks and open spaces, regulatory legislation on industry to prevent further air, water, and land pollution) and describe ways in which people and the environment interact to affect the issue positively and negatively.

### National Geography Standards (NGS)

### Science

# Grade 5 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.2.	Earth-Sun Relationships: Earth-Sun relationships drives physical processes that follow an annual cycle and create patterns on Earth
BENCHMARK	PS.7.2.A.	Explain how Earth-Sun relationships drive Earth's physical processes and create annual patterns, as exemplified by being able to
EXPECTATION	PS.7.2.A.2.	Explain why the hours of visible sunlight changes with seasons (e.g., the equatorial region experiences approximately 12 hours of sunlight year round while places in the Arctic and Antarctic circles vary from 0 to 24 hours of visible sunlight).
EXPECTATION	PS.7.2.A.3.	Describe how the angle of the Sun's rays changes at different latitudes by shining a light directly on the equator of a globe and noting the change in the location (on the tropic lines) and angle of the direct rays as the tilted globe is moved to represent the different seasons.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.A.	Describe how the components of ecosystems are connected and contribute to the energy of their own cycles, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Describe the flow of energy and the cycling of matter through an ecosystem (e.g., the food chain, photosynthesis).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent

BENCHMARK	PS.8.1.B.	Construct a model to explain how an ecosystem works, as exemplified by being able to
EXPECTATION	PS.8.1.B.3.	Construct a flow chart to explain the interactions of components within an ecosystem (e.g., water cycle, oxygen and carbon dioxide exchange, producers, consumers, and decomposers).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: Climate primarily determines the characteristics and geographic distribution of biomes
BENCHMARK	PS.8.3.A.	Describe and explain how climate (temperature and rainfall) primarily determines the characteristics and geographic distribution of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.3.	Explain how biomes do not always follow lines of latitude by identifying the influences of oceans and mountain ranges on the distribution of climate and vegetation.

Science

Grade 6 - Add	opted: 2012	
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.2.	Earth-Sun Relationships: Earth-Sun relationships drives physical processes that follow an annual cycle and create patterns on Earth

BENCHMARK	PS.7.2.A.	Explain how Earth-Sun relationships drive Earth's physical processes and create annual patterns, as exemplified by being able to
EXPECTATION	PS.7.2.A.2.	Explain why the hours of visible sunlight changes with seasons (e.g., the equatorial region experiences approximately 12 hours of sunlight year round while places in the Arctic and Antarctic circles vary from 0 to 24 hours of visible sunlight).
EXPECTATION	PS.7.2.A.3.	Describe how the angle of the Sun's rays changes at different latitudes by shining a light directly on the equator of a globe and noting the change in the location (on the tropic lines) and angle of the direct rays as the tilted globe is moved to represent the different seasons.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.A.	Describe how the components of ecosystems are connected and contribute to the energy of their own cycles, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Describe the flow of energy and the cycling of matter through an ecosystem (e.g., the food chain, photosynthesis).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.B.	Construct a model to explain how an ecosystem works, as exemplified by being able to
EXPECTATION	PS.8.1.B.3.	Construct a flow chart to explain the interactions of components within an ecosystem (e.g., water cycle, oxygen and carbon dioxide exchange, producers, consumers, and decomposers).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: Climate primarily determines the characteristics and geographic distribution of biomes
BENCHMARK	PS.8.3.A.	Describe and explain how climate (temperature and rainfall) primarily determines the characteristics and geographic distribution of biomes, as exemplified by being able to

Explain how biomes do not always follow lines of latitude by identifying EXPECTATION PS.8.3.A.3. the influences of oceans and mountain ranges on the distribution of climate and vegetation.

# National Geography Standards (NGS)

Grade 2 - Add	opted: 2012	
ESSENTIAL ELEMENT	NGS.WST.	The World in Spatial Terms
STANDARD	WST.3.	How to analyze the spatial organization of people, places, and environments on Earth's surface
STRAND	WST.3.1.	Spatial Concepts: The meaning and use of fundamental spatial concepts such as location, distance, direction, scale, movement, region, and volume
BENCHMARK	WST.3.1.A	Describe and explain the spatial organization of people, places, and environments (where things are in relation to other things) using spatial concepts, as exemplified by being able to
EXPECTATION	WST.3.1.A	Describe the meaning of the spatial concepts of distance, direction, and location used in selected literature (e.g., read an account of Paul Revere's ride and describe it in terms of locations [start to end], movement, region of action, distance, direction).
ESSENTIAL ELEMENT	NGS.PR.	Places and Regions
STANDARD	PR.4.	The physical and human characteristics of places
STRAND	PR.4.2.	The Characteristics of Places: Places have physical and human characteristics
BENCHMARK	PR.4.2.A.	Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to
EXPECTATION	PR.4.2.A.3	Describe and compare the physical environments and landforms of different places in the world (e.g., mountains, islands, valleys or canyons, mesas).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)
BENCHMARK	PS.7.1.A.	Identify attributes of Earth's different physical systems, as exemplified by being able to
EXPECTATION	PS.7.1.A.1.	Identify different attributes of physical systems in photographs (e.g., sky, clouds, plants, soil, oceans, lakes, mountains).
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: The components of ecosystems
BENCHMARK	PS.8.1.A.	Identify the components of different ecosystems, as exemplified by being

		able to
EXPECTATION	PS.8.1.A.1.	Identify the three major components of an ecosystem (i.e., biomass, climate, and soil).
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: The characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Identify and describe the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.
EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: The characteristics of biomes
BENCHMARK	PS.8.3.A.	Describe the characteristics of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.15.	How physical systems affect human systems
STRAND	ES.15.1.	Environmental Opportunities and Constraints: The physical environment provides opportunities for and imposes constraints on human activities
BENCHMARK	ES.15.1.A.	Describe examples in which the physical environment provides opportunities for human activities, as exemplified by being able to
EXPECTATION	ES.15.1.A.2	Identify and describe examples of places that offer vacation activities for . people because of the physical environment (e.g., snow skiing, ocean beaches, boating, river rafting).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.15.	How physical systems affect human systems
STRAND	ES.15.1.	Environmental Opportunities and Constraints: The physical environment provides opportunities for and imposes constraints on human activities
BENCHMARK	ES.15.1.B.	Describe examples in which the physical environment imposes constraints on human activities, as exemplified by being able to
EXPECTATION	ES.15.1.B.2	Describe examples in which human activities are limited by different types <sup>.</sup> of climates (e.g., cold or polar, rainy or dry, equatorial).

Grade 3 - Add	opted: 2012	
ESSENTIAL ELEMENT	NGS.WST.	The World in Spatial Terms
STANDARD	WST.3.	How to analyze the spatial organization of people, places, and environments on Earth's surface
STRAND	WST.3.1.	Spatial Concepts: The meaning and use of fundamental spatial concepts such as location, distance, direction, scale, movement, region, and volume
BENCHMARK	WST.3.1.A	<ul><li>Describe and explain the spatial organization of people, places, and</li><li>environments (where things are in relation to other things) using spatial concepts, as exemplified by being able to</li></ul>
EXPECTATION	WST.3.1.A	Describe the meaning of the spatial concepts of distance, direction, and 2. location used in selected literature (e.g., read an account of Paul Revere's ride and describe it in terms of locations [start to end], movement, region of action, distance, direction).
ESSENTIAL ELEMENT	NGS.PR.	Places and Regions
STANDARD	PR.4.	The physical and human characteristics of places
STRAND	PR.4.2.	The Characteristics of Places: Places have physical and human characteristics
BENCHMARK	PR.4.2.A.	Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to
EXPECTATION	PR.4.2.A.3	Describe and compare the physical environments and landforms of different places in the world (e.g., mountains, islands, valleys or canyons, mesas).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)
BENCHMARK	PS.7.1.A.	Identify attributes of Earth's different physical systems, as exemplified by being able to
EXPECTATION	PS.7.1.A.1.	Identify different attributes of physical systems in photographs (e.g., sky, clouds, plants, soil, oceans, lakes, mountains).
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: The components of ecosystems
BENCHMARK	PS.8.1.A.	Identify the components of different ecosystems, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Identify the three major components of an ecosystem (i.e., biomass, climate, and soil).
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: The characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Identify and describe the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.
EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: The characteristics of biomes
BENCHMARK	PS.8.3.A.	Describe the characteristics of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.15.	How physical systems affect human systems
STRAND	ES.15.1.	Environmental Opportunities and Constraints: The physical environment provides opportunities for and imposes constraints on human activities
BENCHMARK	ES.15.1.A.	Describe examples in which the physical environment provides opportunities for human activities, as exemplified by being able to
EXPECTATION	ES.15.1.A.2	Identify and describe examples of places that offer vacation activities for 2. people because of the physical environment (e.g., snow skiing, ocean beaches, boating, river rafting).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.15.	How physical systems affect human systems
STRAND	ES.15.1.	Environmental Opportunities and Constraints: The physical environment provides opportunities for and imposes constraints on human activities
BENCHMARK	ES.15.1.B.	Describe examples in which the physical environment imposes constraints on human activities, as exemplified by being able to
EXPECTATION	ES.15.1.B.2	Describe examples in which human activities are limited by different types of climates (e.g., cold or polar, rainy or dry, equatorial).

National Geography Standards (NGS) Social Studies

ESSENTIAL ELEMENT	NGS.WST.	The World in Spatial Terms
STANDARD	WST.3.	How to analyze the spatial organization of people, places, and environments on Earth's surface
STRAND	WST.3.1.	Spatial Concepts: The meaning and use of fundamental spatial concepts such as location, distance, direction, scale, movement, region, and volume
BENCHMARK	WST.3.1.A	Describe and explain the spatial organization of people, places, and environments (where things are in relation to other things) using spatial concepts, as exemplified by being able to
EXPECTATION	WST.3.1.A	Describe the meaning of the spatial concepts of distance, direction, and .2. location used in selected literature (e.g., read an account of Paul Revere's ride and describe it in terms of locations [start to end], movement, region of action, distance, direction).
ESSENTIAL ELEMENT	NGS.PR.	Places and Regions
STANDARD	PR.4.	The physical and human characteristics of places
STRAND	PR.4.2.	The Characteristics of Places: Places have physical and human characteristics
BENCHMARK	PR.4.2.A.	Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to
EXPECTATION	PR.4.2.A.3	Describe and compare the physical environments and landforms of . different places in the world (e.g., mountains, islands, valleys or canyons, mesas).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)
BENCHMARK	PS.7.1.A.	Identify attributes of Earth's different physical systems, as exemplified by being able to
EXPECTATION	PS.7.1.A.1.	Identify different attributes of physical systems in photographs (e.g., sky, clouds, plants, soil, oceans, lakes, mountains).
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: The components of ecosystems
BENCHMARK	PS.8.1.A.	Identify the components of different ecosystems, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Identify the three major components of an ecosystem (i.e., biomass, climate, and soil).
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: The characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Identify and describe the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.
EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: The characteristics of biomes
BENCHMARK	PS.8.3.A.	Describe the characteristics of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.15.	How physical systems affect human systems
STRAND	ES.15.1.	Environmental Opportunities and Constraints: The physical environment provides opportunities for and imposes constraints on human activities
BENCHMARK	ES.15.1.A.	Describe examples in which the physical environment provides opportunities for human activities, as exemplified by being able to
EXPECTATION	ES.15.1.A.2	Identify and describe examples of places that offer vacation activities for 2. people because of the physical environment (e.g., snow skiing, ocean beaches, boating, river rafting).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.15.	How physical systems affect human systems
STRAND	ES.15.1.	Environmental Opportunities and Constraints: The physical environment provides opportunities for and imposes constraints on human activities
BENCHMARK	ES.15.1.B.	Describe examples in which the physical environment imposes constraints on human activities, as exemplified by being able to
EXPECTATION	ES.15.1.B.2	Describe examples in which human activities are limited by different types of climates (e.g., cold or polar, rainy or dry, equatorial).

**Social Studies** 

Grade 5 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.WST.	The World in Spatial Terms
STANDARD	WST.3.	How to analyze the spatial organization of people, places, and environments on Earth's surface
STRAND	WST.3.3.	Spatial Models: Models are used to represent spatial processes that shape human and physical systems
BENCHMARK	WST.3.3.A	<ul><li>Describe the processes that shape human and physical systems (e.g.,</li><li>diffusion, migration, and plate tectonics) using models, as exemplified by being able to</li></ul>
EXPECTATION	WST.3.3.A	.1. Describe a model that illustrates the diffusion of cultural characteristics (e.g., music styles, clothing styles, fast-food preferences).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: Climate primarily determines the characteristics and geographic distribution of biomes
BENCHMARK	PS.8.3.A.	Describe and explain how climate (temperature and rainfall) primarily determines the characteristics and geographic distribution of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.3.	Explain how biomes do not always follow lines of latitude by identifying the influences of oceans and mountain ranges on the distribution of climate and vegetation.
ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.17.	How to apply geography to interpret the past
STRAND	UG.17.1.	Using Geography to Interpret the Past: A historical event is influenced by

		the geographic context (the human and physical characteristics of places and environments) in which it occurred
BENCHMARK	UG.17.1.A.	Analyze and explain the influence of the geographic context on historical events, as exemplified by being able to
EXPECTATION	UG.17.1.A.1.	Analyze the significance of physical features that have influenced historical events (e.g., the role of hydrologic features such as the fall line, Cumberland Gap, the Ohio River, the Ogallala Aquifer, or artesian wells of the Great Plains in the settlement of the United States, the role of ocean currents and prevailing winds in exploration by Columbus, the forced transport of Africans to North and South America).

ESSENTIAL ELEMENT	NGS.WST.	The World in Spatial Terms
STANDARD	WST.3.	How to analyze the spatial organization of people, places, and environments on Earth's surface
STRAND	WST.3.3.	Spatial Models: Models are used to represent spatial processes that shape human and physical systems
BENCHMARK	WST.3.3.A	<ul><li>Describe the processes that shape human and physical systems (e.g.,</li><li>diffusion, migration, and plate tectonics) using models, as exemplified by being able to</li></ul>
EXPECTATION	WST.3.3.A	.1. Describe a model that illustrates the diffusion of cultural characteristics (e.g., music styles, clothing styles, fast-food preferences).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL	NGS.PS.	Physical Systems

ELEMENT		
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: Climate primarily determines the characteristics and geographic distribution of biomes
BENCHMARK	PS.8.3.A.	Describe and explain how climate (temperature and rainfall) primarily determines the characteristics and geographic distribution of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.3.	Explain how biomes do not always follow lines of latitude by identifying the influences of oceans and mountain ranges on the distribution of climate and vegetation.
ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.17.	How to apply geography to interpret the past
STRAND	UG.17.1.	Using Geography to Interpret the Past: A historical event is influenced by the geographic context (the human and physical characteristics of places and environments) in which it occurred
BENCHMARK	UG.17.1.A.	Analyze and explain the influence of the geographic context on historical events, as exemplified by being able to
EXPECTATION	UG.17.1.A.	<ul> <li>Analyze the significance of physical features that have influenced historical events (e.g., the role of hydrologic features such as the fall line, Cumberland Gap, the Ohio River, the Ogallala Aquifer, or artesian wells of the Great Plains in the settlement of the United States, the role of ocean currents and prevailing winds in exploration by Columbus, the forced transport of Africans to North and South America).</li> </ul>

## Next Generation Science Standards (NGSS)

### Science

# Grade 2 - Adopted: 2013

STRAND	NGSS.2- LS.	LIFE SCIENCE
TITLE	2-LS4.	Biological Evolution: Unity and Diversity
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	2-LS4-1.	Make observations of plants and animals to compare the diversity of life in different habitats.
STRAND	NGSS.2- ESS.	EARTH AND SPACE SCIENCE
TITLE	2-ESS2.	Earth's Systems
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	2-ESS2- 2.	Develop a model to represent the shapes and kinds of land and bodies of water in an area.
PERFORMANCE EXPECTATION	2-ESS2- 3.	Obtain information to identify where water is found on Earth and that it can be solid or liquid.

Next Generation Science Standards (NGSS)

### Science

Grade 3 - Adopted: 2013				
STRAND	NGSS.3- LS.	LIFE SCIENCE		
TITLE	3-LS4.	Biological Evolution: Unity and Diversity		
		Students who demonstrate understanding can:		
PERFORMANCE EXPECTATION	3-LS4-2.	Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.		
PERFORMANCE EXPECTATION	3-LS4-3.	Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.		
STRAND	NGSS.3- ESS.	EARTH AND SPACE SCIENCE		
TITLE	3-ESS2.	Earth's Systems		
		Students who demonstrate understanding can:		
PERFORMANCE EXPECTATION	3-ESS2- 2.	Obtain and combine information to describe climates in different regions of the world.		

### Next Generation Science Standards (NGSS)

### Science

Grade 4	- Adopted: 2013
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STRAND	NGSS.4- LS.	LIFE SCIENCE
TITLE	4-LS1.	From Molecules to Organisms: Structures and Processes
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

### Next Generation Science Standards (NGSS)

Science

# Grade 5 - Adopted: 2013

STRAND	NGSS.5- LS.	LIFE SCIENCE
TITLE	5-LS2.	Ecosystems: Interactions, Energy, and Dynamics
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	5-LS2-1.	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

## Next Generation Science Standards (NGSS)

Science

Grade 6 - Adopted: 2013
STRAND NGSS.MS- LIFE SCIENCE

	LS.	
TITLE	MS-LS2.	Ecosystems: Interactions, Energy, and Dynamics
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-LS2-2.	Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
PERFORMANCE EXPECTATION	MS-LS2-3.	Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
PERFORMANCE EXPECTATION	MS-LS2-4.	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

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